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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/706,719

11/12/2003

Samantha Surrey

103163-0005

7239

24267

7590

01/11/2005

CESARI AND MCKENNA, LLP  
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BOSTON, MA 02210

EXAMINER

BARBEE, MANUEL L

ART UNIT

PAPER NUMBER

2857

DATE MAILED: 01/11/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/706,719	SURREY, SAMANTHA	
	<b>Examiner</b>	<b>Art Unit</b>	
	Manuel L. Barbee	2857	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 10 May 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 April 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)               | Paper No(s)/Mail Date: _____  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>5/10/04</u> .   | 6) <input type="checkbox"/> Other: _____                                    |

## **DETAILED ACTION**

### ***Claim Objections***

1. Claims 3-8 are objected to because of the following informalities:

In claims 3-8, on line one of each claim delete the second occurrence of "a protein".

Claim 4 should be amended to depend from claim 3 to avoid a lack of antecedent basis for "the spheres".

Claim 5 should be amended to depend from either claim 2 or claim 3 to avoid a lack of antecedent basis for "the preliminary protein animation image".

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-11 are rejected under 35 U.S.C. 102(b) as being anticipated by Surrey ("Modeling of the Gramicidin Ion-Selective Channel in a DMPC Bilayer- A Three Dimensional Visualization Study", cited in the Information Disclosure Statement filed 10 May 2004 with a publication date of May 2002).

With regard to identifying a 3-dimensional structure of a protein and obtaining positional data from the protein, as shown in claims 1 and 9, Surrey teaches using three dimensional cardinal coordinates to represent proteins for visualization (page 2, par2;

page 3, par 2; page 3, par. 4 - page 4, par. 1). With regard to converting the coordinates to animation data and using software to generate an animated model, as shown in claims 1 and 9, Surrey teaches an animation process using Maya software (page 10, par. 1).

With regard to using melscript to describe positional relationships and to produce an animation, as shown in claims 2 and 10, Surrey teaches using melscript to show relationships between spheres of proteins and to animate the models (page 6, par. 3 - page 7, par. 2; page 10, par. 1). With regard to generating spheres to illustrate protein portions and connecting the spheres, as shown in claim 3, Surrey teaches creating spheres and connecting spheres with a pipe (page 6, par. 2). With regard to using "Non-Uniform Rational B-splines" (NURBS) to connect the spheres and using smoothing techniques to refine the protein animation image, as shown in claims 4 and 11, Surrey teaches using NURBS to connect spheres and smoothing the curve (page 8, par. 3 - page 9, par. 3).

With regard to rendering the image in order to give depth, setting render globals, employing render editor to set the render globals and turning the motion blur function off, as shown in claims 5-7, Surrey teaches setting render globals using a render editor to give depth and turning motion blur off (page 18, par. 1 - par. 3).

With regard to selecting key frame, lighting, color and camera angles, as shown in claim 8, Surrey teaches selecting key frame, lighting, color and camera angle (page 10, par. 2; page 14, par. 1; page 17, par. 1; page 15, par. 1).

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1, 2, 9 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Srinivasan et al (US Patent No. 5,884,230) in view of Wolverton et al. (US Patent No. 6,486,882).

With regard to identifying a 3-dimensional structure of a protein and obtaining positional data from the protein, as shown in claims 1 and 9, Srinivasan et al. teach modeling a three-dimensional structure of a protein using positional information (Abstract, col. 2, line 25- col. 3, line 45). Srinivasan et al. do not teach converting Cartesian coordinates to animation data or employing melscript to describe positional relationships and to produce an animation, as shown in claims 1, 2, 9 and 10. Wolverton teaches creating an animation of data in three dimensions using Maya software (col. 5, lines 17-47). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the protein modeling method, as taught by Srinivasan et al., to include animation using Maya software, as taught by Wolverton et al., because then controllable animated images would have been available (Wolverton et al. col. 2, lines 25-31).

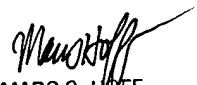
**Conclusion**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Manuel L. Barbee whose telephone number is 571-272-2212. The examiner can normally be reached on Monday-Friday from 8-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marc S. Hoff can be reached on 571-272-2216. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

mlb  
January 4, 2005

  
MARC S. HOFF  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2800